DOCUMENT RESUME

ED 177 403 CG 013 830

AUTHOR Sendbuehler, J. M.; And Others
TITLE Attempted Suicide: The M.M.P.I. Differentiation of Suicidal from Non-Suicidal Depressions.
PUB DATE [79]
NOTE 18p.; Paper presented at the Annual Meeting of the American Association of Suicidology (12th, Denver, Colorado, May 10-13, 1979) ; Some light print

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Behavior Patterns; Classification; Comparative Analysis; *Depression (Psychology); *Individual Characteristics; Patients (Persons); *Personality Studies; *Profile Evaluation; *Psychological Patterns; *Suicide
IDENTIFIERS *Minnesota Multiphasic Personality Inventory

ABSTRACT

Distinctions between non-suicidal and suicidal depression were investigated. Epidemiological profiles of depressed patients (40 suicidal and 40 non-suicidal) were matched for sex and age. Independent raters diagnosed each subject according to five classifications of depression. The Minnesota Multiphasic Personality Inventory (MMPI) scores for each subject were examined for any differences between the two groups. Results indicated that: (1) MMPI profiles appear to differentaite suicidal from non-suicidal depression; (2) psychiatric diagnoses are of little value in differentiating the types of depression; (3) suicidal patients are not confined to any single diagnostic group; and (4) admissions for male and female depression peak in the 20-39 year age group and then gradually decline. (Author/HLM)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED177403

# ATTEMPTED SUICIDE: The M.M.P.I. Differentiation of Suicidal from Non-suicidal Depressions

* Sendbuehler, J.M., M.D.; ** Kincel, R.L., Ph.D.; *** Waters, B., M.B.; **** Boodoosingh, L., M.D.

## INTRODUCTION

Depression, sadness, grief and lonliness have often been closely linked to suicide and attempted suicide. Many authors consider that depression per se is synonymous with suicide; on the other hand, we have noted that suicidal behaviour can occur without evident depression. We would like to examine the assumption that perhaps one can distinguish between non-suicidal and suicidal depressions. In our previous work using interscale and actuarial profile analysis (11) we have established that serious suicidal individuals show characteristic MMPI profiles. We would like to compare these previous findings with two depressive populations, the larger of which was collected a decade later (11).

---

* J.M. Sendbuehler, M.D., Associate Professor in Psychiatry, University of Ottawa, Royal Ottawa Hospital.

** R.L. Kincel, Ph.D., Psychologist, Calgary General Hospital, Calgary, Alberta.

*** B. Waters, M.D., Lecturer in Psychiatry, University of Ottawa, Ottawa, Ontario.

**** L. Boodoosingh, M.D., Lecturer in Psychiatry, University of Ottawa, Ottawa, Ontario.

CG013830

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

J.M. Sendbuehler

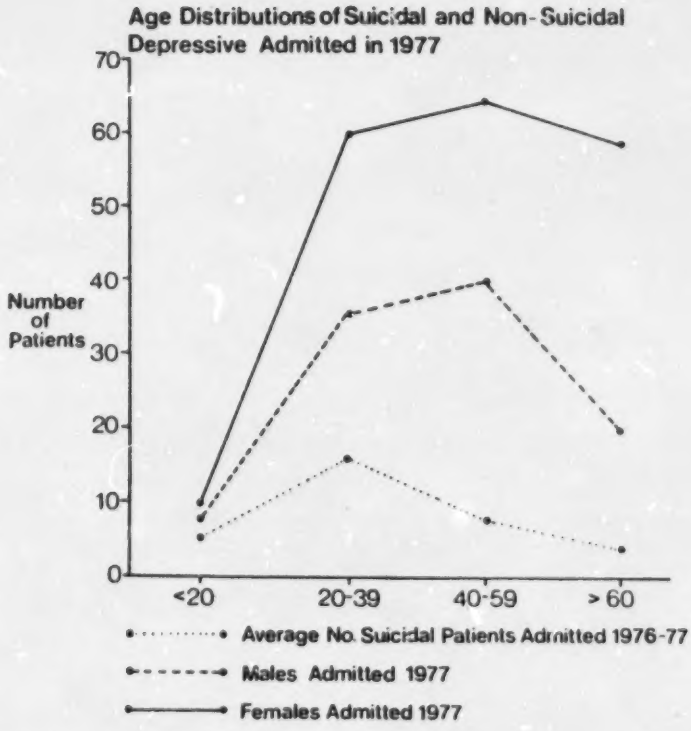
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

METHOD

The subjects of this comparative study were 40 suicidal depressed and 40 non suicidal depressed patients. Sixty-three of these patients had been admitted to a psychiatric in-patient facility affiliated with the University of Ottawa. The remaining 17 were collected from the Queen Elizabeth Hospital in Montreal, Quebec.

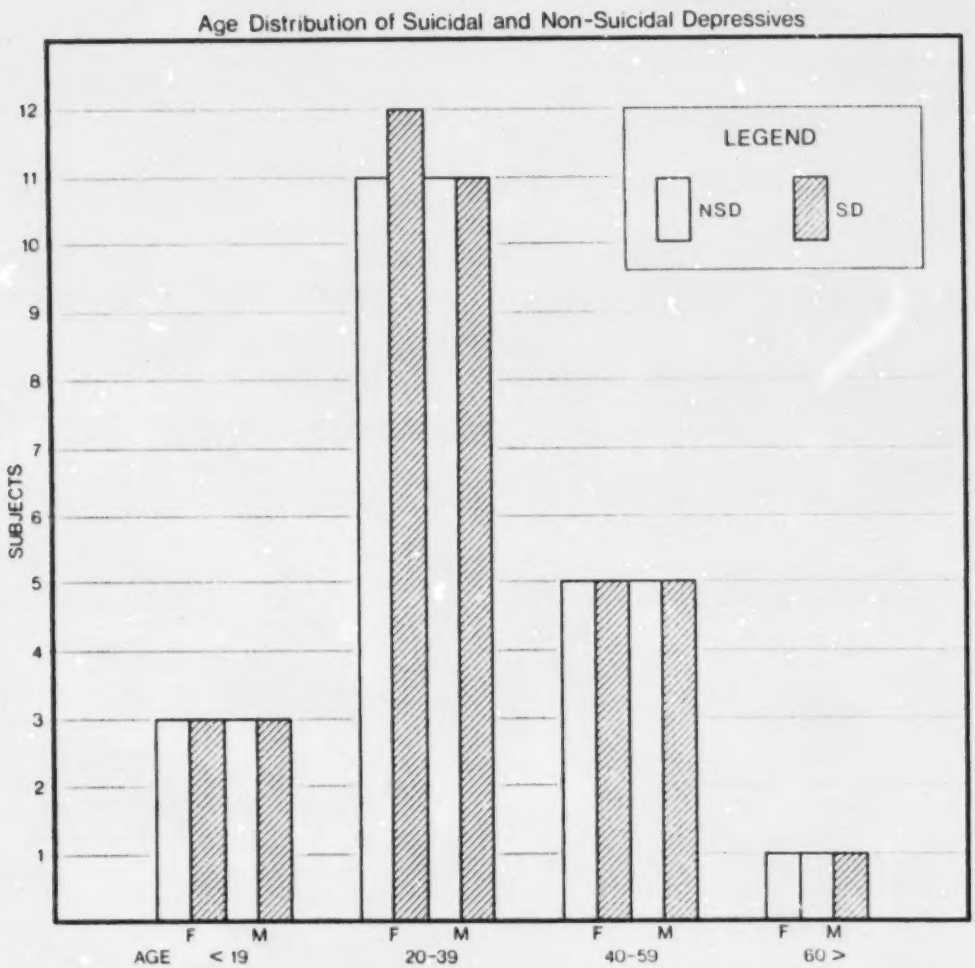
An epidemiological profile of suicidal and non-suicidal depressives (fig. 1) admitted to hospital demonstrates their age and sex distribution. Forty serious suicidal depressives and forty non-suicidal

Figure 1



depressives patients were matched for sex and age distribution according to the afore noted epidemiological profile for suicidal patients admitted (fig. 2).

Figure 2




N.S.D. - Non-suicidal Depressives

S.D. - Suicidal Depressives

A non-suicidal depressed patient did not have clinical symptomatology of a suicidal nature and the clinical chart had to be free of any suicidal notation.

For the purposes of this paper, a serious suicide attempter (depressive) was considered as such according to our understanding of the pre- and post-suicidal states (8). These were attempters who were the highest risk group and who managed to survive a suicide attempt by medical or surgical means. Their professed aim was cessation or death. The self destructive urge originated from within. There was no call for help. There was usually an anniversary phenomenon, sleep disturbance, increased pain threshold and eating disorder (9). In this study, only the highest risk depressive suicide attempters were used (N=40).

In order to determine whether suicidal behaviour was related to any particular form or type of depression, two of us (B.W.& L.B.) independently and blind to suicidal behaviour status, on the basis of the available record data, diagnosed each subject according to each of five classifications of affective disorder (2, 3, 4, 6).

Each subject had an MMPI profile. The suicide attempters completed their MMPI within three days after the suicidal attempt. A period of within three days was chosen so as to provide controlled comparison studies (11). The depressed non-suicidal completed their MMPI prior to treatment.

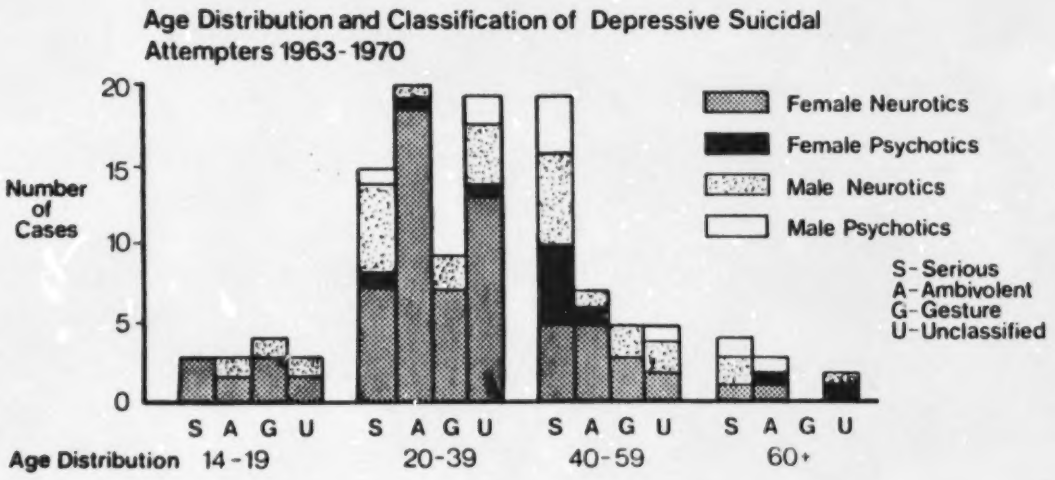
The MMPI scores were compared scale by scale together with their actuarial configurations. We were interested in comparing these results with our previous findings (10, 11).

RESULTS

Epidemiological

Figure 1 graphs the age distribution of depressives admitted to our hospital in 1976-77. Female non-suicidal depressives outnumbered males in the ratio of 2:1. Both of these groups peak in the 40-59 year group and then decline. Attempters are a much smaller group and peak in the 20-39 year group and then gradually decline. This curve is similar to a group of depressive suicidal attempters collected between 1963-70 (fig. 3). The serious attempters and the psychotics in this sample were clustered in this 40-59 year age group.

Figure 3



Psychiatric diagnosis and suicidal behaviour

Psychiatric diagnosis did not aid in the distinction between suicidal depressives and non-suicidal depressives. Four of the five classifications of affective disorders included from four to six subtypes of depression. For these more elaborate classifications, interrater reliability did not exceed that expected by chance. The simplest classification distinguished between endogenous and exogenous depression. With the exception of suicidal depressive males, there was a fair interrater agreement on diagnosis (table 1). It is also evident from Table 1 that for those subjects in whom diagnostic agreement was satisfactory, diagnosis and suicidal behaviour were distributed independent of each other.

Table 1
N=63

Suicidal Females

| BW \ LB | End | Exog | |
|---|---|---|---|
| End | 3 | 0 | |
| Exog | 0 | 8 | 11 |

Suicidal Males

| BW \ LB | End | Exog | |
|---|---|---|---|
| End | 1 | 7 | |
| Exog | 1 | 6 | 15 |

$z = 3.8$, $p < 0.01$

Non-suicidal Female

| BW \ LB | End | Exog | |
|---|---|---|---|
| End | 3 | 1 | |
| Exog | 2 | 14 | 20 |

Non-suicidal Males

| BW \ LB | End | Exog | |
|---|---|---|---|
| End | 6 | 1 | |
| Exog | 2 | 8 | 17 |

M.M.P.I.

The mean standard scores of the depression scale (D2), though elevated about T80 did not differ significantly in the suicidal depressives and the non-suicidal depressives (table 2, 3). The mean scores of the suicidal depressive males differed significantly in scales F(validity), Hs(1), Ma(9) ($p < .05$), Pd(4), Mf(5), Sc(8) ($p < .001$) from the non-suicidal depressive males. The mean scores of the suicidal depressive females differed significantly in scales Pd(4) ($p < .05$) Mf(5) ($p < .001$) from the non-suicidal depressive females. The highest T values were obtained for both sexes in the Mf(5) scale ($p < .001$).

**Table 2**

| MMPI Scores for Depressive Subgroups | | | | |
|---|---|---|---|---|
| | Males | | Females | |
| Scale | S.A. | Non-S. | S.A. | Non-S. |
| L | | | | |
| M. | 48.85 | 48.85 | 49.17 | 53.6 |
| S.D. | 8.34 | 8.48 | 5.90 | 11.32 |
| F | | | | |
| M. | 71.7 | 63.9 | 65.25 | 65.31 |
| S.D. | 12.49 | 9.72 | 10.36 | 10.41 |
| K | | | | |
| M. | 45.5 | 48.15 | 49.2 | 47.75 |
| S.D. | 8.02 | 6.78 | 5.77 | 7.36 |
| Hs | | | | |
| M. | 72.75 | 62.6 | 61.35 | 65.65 |
| S.D. | 14.17 | 14.51 | 10.79 | 8.65 |
| D | | | | |
| M. | 90.4 | 89.95 | 82.68 | 82.4 |
| S.D. | 10.13 | 13.84 | 7.68 | 8.95 |
| Hy | | | | |
| M. | 72.25 | 71.8 | 69.2 | 72.3 |
| S.D. | 10.58 | 9.70 | 11.99 | 8.29 |
| Pd | | | | |
| M. | 78.65 | 68.2 | 81.25 | 72.45 |
| S.D. | 9.15 | 11.81 | 11.52 | 12.40 |
| Mf | | | | |
| M. | 76.4 | 67.4 | 39.6 | 49.6 |
| S.D. | 6.09 | 6.9 | 8.12 | 9.18 |
| Pa | | | | |
| M. | 71.65 | 67.15 | 69.3 | 67.65 |
| S.D. | 10.17 | 7.98 | 11.92 | 9.47 |
| Pt | | | | |
| M. | 82.65 | 76.00 | 72.52 | 71.7 |
| S.D. | 12.60 | 15.22 | 8.94 | 10.22 |
| Sc | | | | |
| M. | 89.4 | 71.75 | 76.31 | 71.3 |
| S.D. | 20.7 | 13.01 | 13.61 | 13.61 |
| Ma | | | | |
| M. | 65.73 | 57.63 | 59.5 | 61.65 |
| S.D. | 10.71 | 11.66 | 10.20 | 12.16 |
| Si | | | | |
| M. | 63.8 | 62.95 | 65.63 | 64.52 |
| S.D. | 10.02 | 9.10 | 8.66 | 9.77 |

Note: S.A.= Serious suicide attempters; (n=40)
Non-S.= Non-suicidal psychiatric subjects, (n=40)

This information about the Mf(5) scale is in agreement with our previous work (11) in that the direction of deviation of this scale for suicidal males is upwards and for suicidal females it is downwards (fig. 4, 5). In this study, we chose severe depressives and obtained a mean Mf(5) score for suicidal males as 76.4. Our previous study recorded a mean of 73. For suicidal females the mean Mf was 39.6 whereas in the study mentioned above it was 43 (11).

These findings corroborated our previous work when we noted that even though the Mf scale was considered as quite important, it was also felt that attempted suicide was rooted in a complexity of factors which are described by MMPI scales D(2), Pd(4), Pa(6), Pt(7), Sc(8) and Ma(9) (9).

Table 3

Values (t) between Serious S.A. and Non-suicidal Controls

| | Males | Females |
|---|---|---|
| Scale | t | t |
| L | 0.00 | 1.51 |
| F | 2.14* | 0.00 |
| K | 1.09 | 0.67 |
| Hs | 2.17* | 1.35 |
| D | 0.11 | 0.10 |
| Hy | 0.13 | 0.92 |
| Pd | 3.00** | 2.26* |
| Mf | 4.26** | 3.55** |
| Pa | 1.52 | 0.47 |
| Pt | 1.46 | 0.26 |
| Sc | 3.14** | 1.13 |
| Ma | 2.23* | 0.59 |
| Si | 0.27 | 0.37 |

Note: Levels of significance: *p<.05
**p<.001

Figure 4

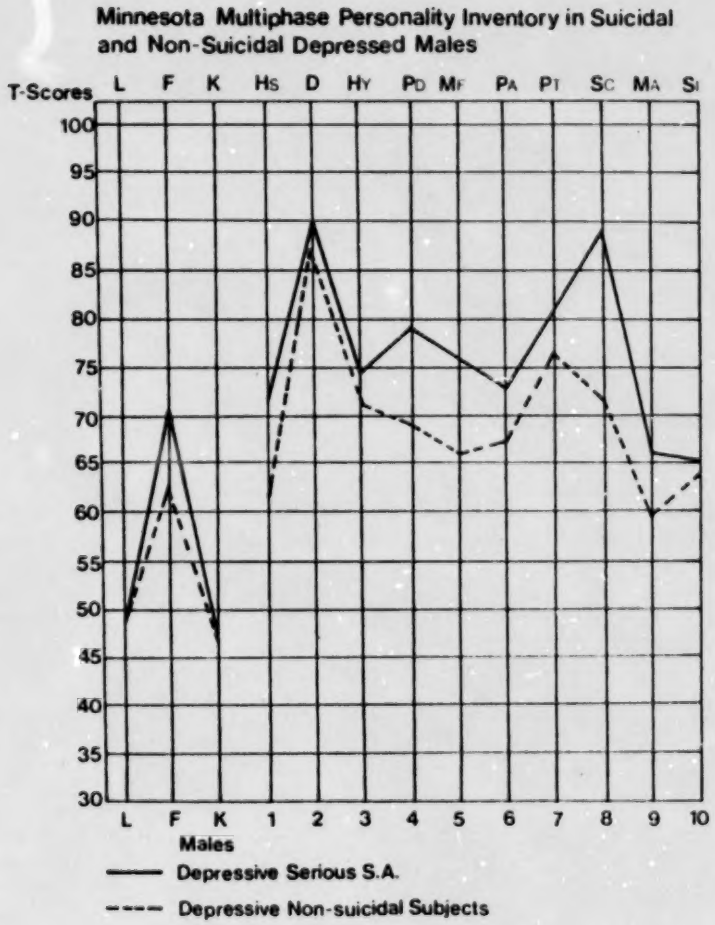
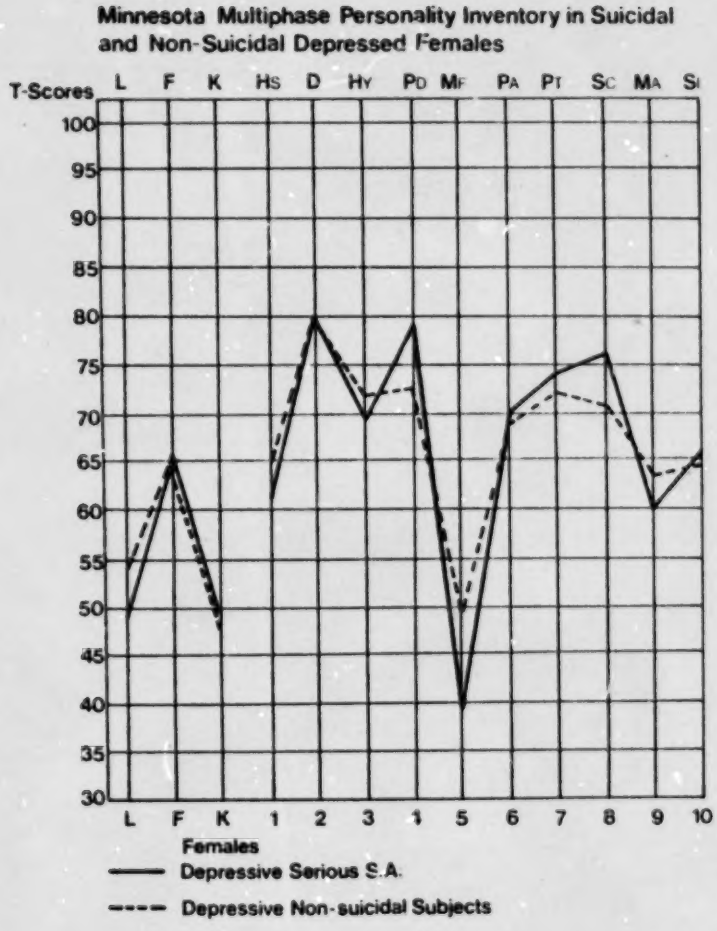

Minnesota Multiphase Personality Inventory in Suicidal and Non-Suicidal Depressed Males
T-Scores
L F K Hs D Hy Pd Mf Pa Pt Sc Ma Si
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
L F K 1 2 3 4 5 6 7 8 9 10
Males
Depressive Serious S.A.
Depressive Non-suicidal Subjects

Figure 5


Minnesota Multiphase Personality Inventory in Suicidal and Non-Suicidal Depressed Females
T-Scores
L F K Hs D Hy Pd Mf Pa Pt Sc Ma Si
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
L F K 1 2 3 4 5 6 7 8 9 10
Females
Depressive Serious S.A.
Depressive Non-suicidal Subjects

This is noted in a pictorial representation of the t test using the Mf(5) scale both for females and males.

Figure 6

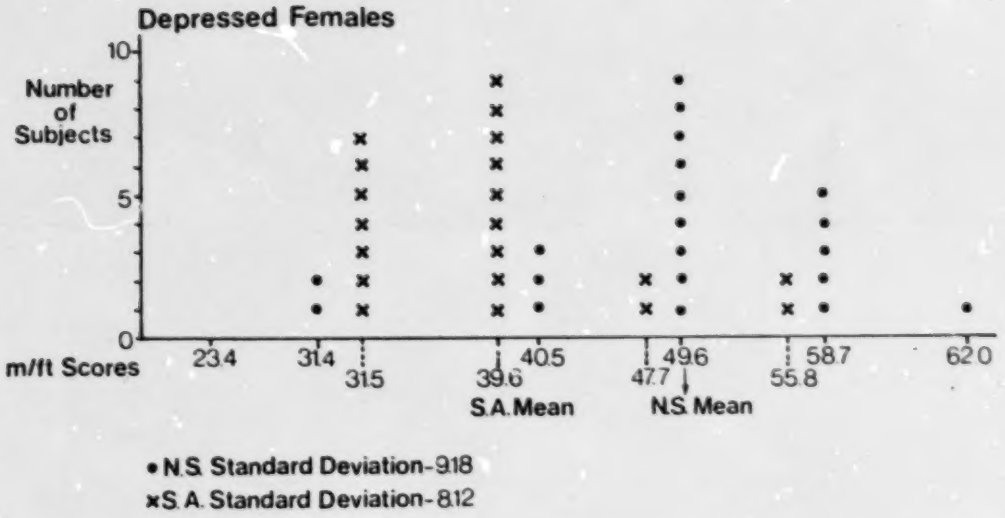
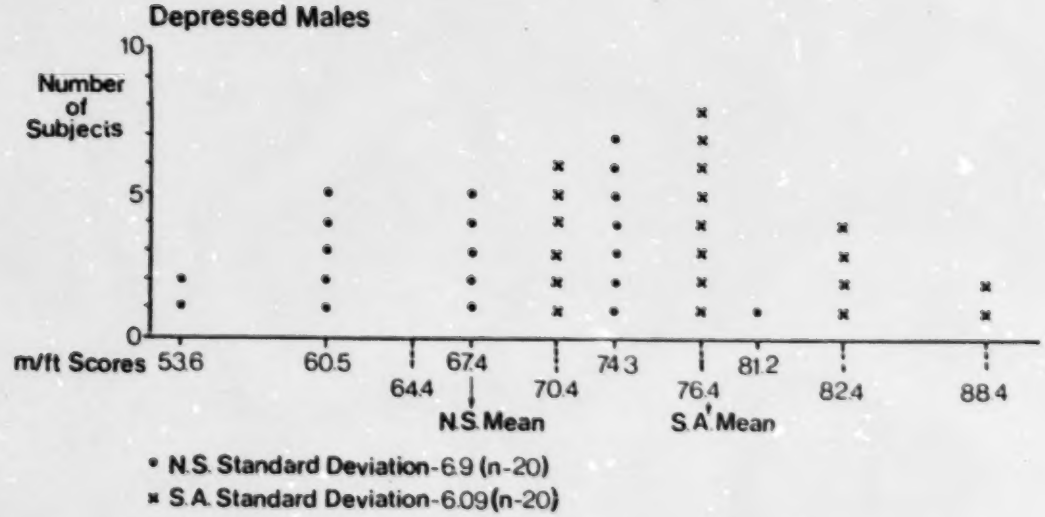



Figure 7



There is some overlapping of suicidal depressives and non-suicidal depressive cases in both instances even though the Mf(5) scoring separates out 31 of 40 cases for females and 32 out of 40 for males (fig. 6 & 7).

So as to achieve greater accuracy in the identification of suicidal profiles we would recommend a full scale interpretation together with an actuarial profile assessment.

Female attempter profiles which overlapped in nine cases were considered to see if these could provide further information in the differentiation of suicidal from non-suicidal profiles. Five non-suicidal depressives with low Mf scores could mistakenly be considered as suicidal but perhaps should be considered as such until greater accuracy prevails. We have noted that some of these profiles had low Ma(9) scores. The significance of Ma scores may be summarized as follows for both sexes:

There is no immediate suicidal risk when the score is between 40-55; they may have suicidal thoughts or make threats when the score is between 56-65 and when above 66, they are to be considered an immediate risk.

Another small group of four overlapping cases consisted of female suicidal depressive patients who have so called non-suicidal (high) Mf(5) scores. All of these profiles had elevated Pd(4) scores. Particular caution should be exercised in 4-2 or 2-4 profile interpretation for both sexes when it concerns suicidal activity (1). In our experience, these profiles resemble that group who are derived from a lower socio-economic group of severely deprived and depressed individuals who also happen to be 'shy' and psychopathic. Suicidal behaviour then is a distinct possibility. Similar profiles have been

noted by us as Serious Female profiles within a psychopathic subdivision. The Mf(5) varies from 57 to 32. These patients are not necessarily antisocial or psychopathic because the high D(2) scale masks the other Pd(4), (10). At times the actuarial profile may have a slightly different configuration which is 4-2-7.

When a full scale profile interpretation is considered (10) for suicidal depressive females we have to consider the following information: The most common actuarial profiles are 4-8-2 (19% of suicidal attempters); 2-8-4 (14%); 8-4-2 (17%), (11). An elevated D(2) scale (above 70); a low Mf(5) (below t40); D(2)>Pa(6) which represents a more passive and yielding attitude with 'internalized' anger.

Table 4

Depressive Non-suicidal (N/A) and Serious Suicidal Attempters (S/A) Their MMPI Actuarial Configurations and Frequencies

| | Females | | Males | |
|---|---|---|---|---|
| Profile | Serious S/A | N/A | Serious S/A | N/A |
| *4-8-2$^{x(f)}$ | 3 | - | - | - |
| **2-8-4$^{x(f)}$ | 3 | - | 3 | 2 |
| ***8-4-2$^{x(fm)}$ | - | - | 2 | - |
| ****8-2-4$^{x(m)}$ | - | 1 | 7 | - |
| 4-6-2 | 1 | - | 1 | 1 |
| 4-6 | 1 | - | - | - |
| 2-7 | 1 | 4 | 1 | 4 |
| 2-3-1 | 3 | - | - | - |
| 2-3-7 | - | 2 | - | 1 |
| 8-6 | 1 | - | 2 | - |
| 5-2 | - | - | 1 | - |
| 4-2 | 6 | 4 | - | 1 |
| 2-6 | - | - | 1 | - |
| 2-0-8 | 1 | 1 | - | 1 |
| 2-8-9 | - | 1 | 1 | - |
| 2-3-4 | - | 3 | 1 | 4 |
| 6-8-2 | - | 1 | - | - |
| 2-3-6 | - | 2 | 1 | - |
| 2-3-8 | - | 1 | - | 2 |
| 7-8 | - | - | - | 2 |
| (n) | 20 | 20 | 20 | 20 |

*4-8-2$^{x(f)}$ high frequency profile noted in 19% suicidal attempters
**2-8-4$^{x(f)}$ high frequency profile noted in 14% suicidal attempters
***8-4-2$^{x(fm)}$ high frequency profile noted in 17% & 10% suicidal attempters
****8-2-4$^{x(m)}$ high frequency profile noted in 22% suicidal attempters

All of the male suicidal depressives (N=20) had Mf(5) T scores above 70. However eight male non-suicidal depressives had Mf(5) T scores that were elevated. Three of these eight cases were homosexual (by history) and these elevated Mfs should be looked upon as 'false positives'. A further three had a 2-4 configuration which corresponds to the clinical information discussed previously concerning female attempters. The remaining two profiles (2-7-3) and (2-3-8) with elevated Mf T scores above 70 are too infrequent to be commented on as yet.

When considering a full scale interpretation for suicidal depressive males we have to consider the following information: The most common actuarial profiles are: 8-2-4 (22%); 2-8-4 (20%) (table 4); an elevated D(2) scale (above t70); an elevated Mf(5) (above t70). D(2)> Pa(6) which indicates that anger is internalized instead of being projected. We have also noted that an elevated Mf(5) has a particular relationship to an elevated Pd(4). It can 'mask' or inhibit delinquent or psychopathic tendencies such as an elevated D(2) can have on women with psychopathic traits. When considering suicidal depressives of both sexes a particular relationship between Pt(7) and Sc(8) exists. With the most severe suicidal depressives as were considered in this study, we note that Sc(8) is greater than Pt(7). However with less severe suicidal depressives the reverse situation is the rule (10).

DISCUSSION

Two groups of severely depressed people were compared in this study. One group was suicidal and the other not. The degree of depression in the two groups was almost the same as measured by the D(2) scale. It

then would appear that some additional indicators need be present in both sexes that account for the high suicidal risk even though the level of depression is a strong facilitator for a suicidal risk. In psychiatric terms, a pre- and post-suicidal state had been superimposed upon a depressive illness. The psychiatric nosological system as currently used could not detect this additional feature and cluster the cases accordingly.

However the MMPI could significantly differentiate both these groups when various scales were considered. The most reliable scale for both sexes is the Mf(5). Secondly the Sc(8) scale indicated that serious depressive suicide attempters were more severely disturbed than all the other subgroups. According to the Mf item analysis, it would appear that serious depressive suicide attempters are sensitive, easily hurt, have a low self esteem and self confidence. They are frequently maladjusted psychosexually and socio-culturally (5). It should be noted that the Mf(5) content is not directly related to suicidal behaviour as such.

Another significant indicator to consider in male depressed patients, is the amount of available aggressiveness "inhibited aggression" (7) as an energy reservoir for the attempt to occur and which is manifested in the psychopathic deviate Pd(4) and hypomanic scales Ma(9). This finding was not corroborated in this study for females.

---

The authors would like to thank George W. Lynch, Ph.D., Lorna Lott, Joe Carboni, Audrey MacDonald and Colleen Maloney for their assistance.

## REFERENCES


1. DAHLSTROM, W.G., & WELSH, G.S. An MMPI handbook: A guide to use in clinical practice and research. Minneapolis: Univ. of Minnesota Press, 1960.
2. KENDELL, R.E. The classification of depressions: A review of contemporary confusion. Br. J. Psychiatry, 1976, 129, 15-28.
3. KLEIN, D.F. Endogenomorphic depression. A conceptual and terminological revision. Arch. Gen. Psychiatry, 1974, 31, 447-454.
4. PAYKEL, E.S. Correlates of a depressive typology. Arch. Gen. Psychiatry, 1972, 27, 203-210.
5. PEPPER, L.J., & STRONG, P.N. Judgmental subscales for the Mf scale of the MMPI. Unpublished materials, 1958, cited in W.G. Dahlstrom, G. Welsh & L.E. Dahlstrom, An MMPI handbook. Vol. 1. Clinical interpretation. (Rev. ed.) Minneapolis: Univ. of Minnesota Press, 1972. p. 411.
6. RASKIN, A., CROOK, T.H. The endogenous-neurotic distinction as a predictor of response to antidepressant drugs. Psychol Med, 1976, 6, 59-70.
7. RINGEL, E. Der Selbstmord, Abschluss einer Krankhaften psychischen Entwicklung. In H. Hoff & O. Potzl (Eds.), Wiener Beitrage zur Neurologie und Psychiatrie. Dusseldorf: Wilhelm Maudrich, 1953, Vol. III. p; 104-154.
8. SENDBUEHLER, J.M. Attempted suicide: Description of the pre- and post suicidal states. Canadian Psychiatric Association Journal, 1973, 18, 113-116.
9. SENDBUEHLER, J.M., KINCEL, R.L., & NEMETH, G. The varieties of the pre- and post suicidal states. University of Ottawa Psychiatric Journal, 1978, 3, 87-94.

10. SENDBUEHLER, J.M., KINCEL, R.L., & NEMETH, G. Attempted suicide: A manual on MMPI suicidal profiles. Unpublished manuscript. 1977.

11. SENDBUEHLER, J.M., KINCEL, R.L., NEMETH, G., & OERTEL, J. Dimensions of seriousness in attempted suicide: The significance of the Mf scale in suicidal MMPI profiles. Psychological Reports, 1979, 44, 343-361.